

Appl. No. 10/693,896
Amendment dated: April 26, 2005
Reply to OA of: February 1, 2005

Amendments to the Specification:

Please replace the original title with the following new title.

--WAFER BUMPING PROCESS WITH SOLDER BALLS BONDED TO UNDER BUMP METALLURGY LAYER FORMED OVER ACTIVE SURFACE BY FORMING FLUX ON SOLDER BALL SURFACES AND REFLOWING THE SOLDER--

Please replace paragraph [0004] on page 2 which bridges page 3 with the following amended paragraph:

[0004] As shown in FIG. 2, a spin-coating process is conducted to form a photoresist layer 130 over the active surface 112 of the wafer 110, wherein the photoresist layer 130 can be a dry film. Through photolithography and etching processes, a plurality of openings 132 (only one opening is shown) are formed in the photoresist layer 130. The openings 132 expose the under bump metallurgy layer 120. Next, as shown in FIG. 3, a flux material 160 is dispensed in the openings 132 and above the surface of the photoresist layer 130. Afterwards, a solder ball mounting process is performed to place the solder balls 140 in the openings 132 as shown in FIG. 3. Then a reflow process is performed to dispose the solder balls above the bonding pads 116 more securely as shown in FIG. 4, wherein the solder balls 140 are directly mounted onto the under bump metallurgy layers 120 and the flux material 160 flows on the surfaces of the solder balls 140 and vaporized. Thereafter, a liquid cleaner is applied to remove the residual flux material from the surface of the solder balls 140. Finally, the photoresist layer 130 is removed from the active surface 112 of the wafer 110 as shown in FIG. 4 so that a bump 150 is produced. Therein, the bump 150 actually comprises the solder ball 140 and the under bump metallurgy layer 120.

On page 7, please add the following new paragraph at the end of paragraph [0019] and before paragraph [0020].

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The material constituting the solder balls may include a lead-tin alloy. More particularly, the material constituting the solder balls is selected from the group consisting of lead, gold, silver, copper, magnesium, bismuth, antimony, indium and zinc. This obviously includes mixtures of these materials.